IYA 2009: Cornerstone Projects

One Hundred Hours of Astronomy (

* Live webcasts, observing events and more taking place during a 100-hour period in early April.
* One of the key goals of 100HA is to have as many people as possible look through a telescope as Galileo did for the first time 400 years ago.
* 100HA will take place from 2-5 April

Galileoscope (<http://www.astronomy2009.org/globalprojects/cornerstones/galileoscope/>)

* Collaborating with the US IYA2009 National Node to develop a simple, accessible, easy-to-assemble and easy-to-use telescope that can be distributed by the millions.
* Inexpensive, easily assembled telescope similar to Galileo’s

Cosmic Diary (<http://www.astronomy2009.org/globalprojects/cornerstones/cosmicdiary/>)

* About what it is like to be an astronomer.
* Professionals will blog in text and images about their life, families, friends, hobbies and interests, as well as their work, latest research findings and the challenges they face.
* The bloggers represent a vibrant cross-section of working astronomers from around the world.
* They will write in many different languages and come from five continents. They will be asked to explain one particular aspect of their work to the public in more popular language.
* These "explanations" will be highlighted on the web and used as the basis for a book and documentary to be released during IYA2009 as the legacy of this project.

Portal to the Universe (<http://www.astronomy2009.org/globalprojects/cornerstones/portaltotheuniverse/>)

* The Portal to the Universe (PTTU) seeks to provide a global, one-stop portal for online astronomy content.
* Serve as an index, aggregator and a social networking site for astronomy content providers, laypeople, press, educators, decision-makers and scientists.
* PTTU will feature news, image, event and video aggregation.
* A comprehensive directory of observatories, facilities, astronomical societies, amateur astronomy societies, space artists, science communication universities.
* Web 2.0 collaborative tools to promote sharing information and resources.

She Is An Astronomer (<http://www.astronomy2009.org/globalprojects/cornerstones/sheisanastronomer/>)

* Promote gender equality in astronomy (and science in general).
* To provide neutral, informative and accessible information to female professional and amateur astronomers, students, and those who are interested in the gender equality problem in science.
* Promote the interest of young females to study and pursue a career in astronomy.

Dark Skies Awareness Project (

* Introduce with YouTube <http://www.youtube.com/watch?v=GfcbQHOJY-E>
* Goals of project:
  + To raise the level of public knowledge about adverse impacts of excess artificial lighting on local environments
  + To help more people appreciate the ongoing loss of a dark night sky for much of the world’s population.
* Programs:
  + Astronomy Nights in the National Parks
  + Globe at Night
    - 4th year of project
    - March 16-28, 2009
    - Citizen-scientists around the world have contributed measurements of their local sky brightness to a growing global database
      * simple unaided-eye observations toward the constellation Orion
        + **Five Easy Star-Hunting Steps:**
        + 1) Find your [latitude and longitude](http://www.globe.gov/GaN/observe_latlong.html).  
          2) [Find Orion](http://www.globe.gov/GaN/observe_finder.html) by going outside an hour after [sunset](http://www.sunrisesunset.com/custom_srss_calendar.asp)   
          (about 7-10pm local time).  
          3) Match your nighttime sky to one of our [magnitude charts](http://www.globe.gov/GaN/observe_magnitude.html).  
          4) [Report](http://www.globe.gov/GaN/report.html) your observation.  
          5) [Compare](http://www.globe.gov/GaN/analyze.html) your observation to thousands around the world.
      * Quantitative digital measurements through a handheld, well-calibrated sky-brightness meter.
      * Downloadable teacher and family packets
      * Data from previous years of the project that may be downloaded
  + The 365 Days of Astronomy Podcast
    - Publish 1 podcast per day for all 365 days of 2009
    - Podcasts written, recorded and produced by people around the world
    - Simple at-home to professional published recordings
    - Diversity of voices: school children to adults
    - Any astronomical topic is acceptable

**IAU/UNESCO Astronomy and World Heritage: Universal Treasures (**<http://www.astronomy2009.org/globalprojects/cornerstones/astroworldheritage/>**)**

* Research and education collaboration.
* Establish a link between science and culture on the basis of research aimed at acknowledging the cultural and scientific values of properties connected with astronomy.

Galileo Teacher Training Program (<http://www.astronomy2009.org/globalprojects/cornerstones/galileoteachertraning/>)

* Goal is to create a worldwide network of certified "Galileo Ambassadors" by 2012.
* Ambassadors will train "Galileo Master Teachers" in the effective use and transfer of astronomy education tools and resources into classroom science curricula.
* Through workshops, online training tools and basic education kits, the products and techniques developed by this programme can be adapted to reach locations with few resources of their own, as well as computer-connected areas that can take advantage of access to robotic optical and radio telescopes, webcams, astronomy exercises, cross-disciplinary resources, image processing and digital universes (web and desktop planetariums).

Universe Awareness: One Place in the Universe (<http://www.astronomy2009.org/globalprojects/cornerstones/universeawareness/>)

* Exposes very young children in under-privileged environments to the scale and beauty of the Universe.
* Illustrates the multicultural origins of modern astronomy in an effort to:
  + broaden children's minds
  + awaken their curiosity in science
  + stimulate global citizenship and tolerance

From Earth to the Universe (<http://www.fromearthtotheuniverse.org/>)

* Aimed at general public
* To bring wonderful astronomical images to a wider audience in non-traditional venues.
* Deliver these images and the science behind them to public parks, metro stations, art centres and other locations

Developing Astronomy Globally (<http://www.developingastronomy.org/>)

* Astronomy worldwide needs to be developed in three key areas:
  + professionally (universities and research);
  + publicly (communication, media, and amateur groups)
  + educationally (schools and informal education structures).
* Establish and enhance regional structures and networks that work on the development of astronomy around the world.